

Lethbridge Experimental

Station
WEEKLY LETTER

RESPONSE OF WHEAT TO
COMMERCIAL FERTILIZERS
AND SOIL TYPES

Will commercial fertilizers increase the climate on these different soils

your crop yields? What is the effect of increasing the rates of fertilizers applied? To obtain some information on these questions, field tests with fertilizers on various soil types in Southern Alberta have been conducted in past seasons. However, the climate on these different soils

is so variable it was considered advisable to supplement field types under controlled conditions in the greenhouse at the Dominion Experimental Station, Lethbridge.

Differences in the size of the wheat plants, in fertilized and unfertilized (or check) soils were noted within three weeks from the date of planting. During the course of the next eight weeks, the variations in the height of the plants were increased further. Ammonium phosphate fertilizer (11-48-0) was used in the different pots at rates equal to 25, 50 and 150 pounds per acre. There were progressive increases in the size of the plants with the increased amounts of fertilizer used.

The soil types used consisted of Claresholm fine sandy loam (dark brown soil zone), Nobleford silt loam (dark brown soil zone), and Pincher Creek clay (shallow black soil zone) each soil type representative of several townships of land in its particular district.

In comparing these soil types with each other it was noted that the wheat was tallest in both the fertilized and unfertilized clay, next in order was the silt loam soil and then came the fine sandy loam. The length of the heads of wheat in the various soils followed the same order.

The wheat grown in the fertilized soils headed out from two to nine days before that grown in the unfertilized soils. Also the wheat in the fertilized soils matured or ripened from two to seven days earlier than that in the unfertilized fields.

The important question is: How did the yields compare? Considering first the check or unfertilized soils, the yields were slightly in favor of the clay soil, over the silt loam or fine sandy loam. With the application of fertilizers, the increases in yields obtained were greatest on the clay soils, next on the silt loam, and least, though quite substantial, on the fine sandy loam. Progressive increases occurred in the yields of

Get Seed Flax Early

Growers on the prairies who are planning to sow flax this year are warned to get seed supplies early. If they have not already done so, in bulletins issued by the National Barley and Linseed Flax Committee.

Another large acreage is in sight for this profitable cash crop which is urgently needed for industrial purposes in Canada and for export.

Professor T. J. Harrison, Chairman, of the National Barley and Linseed Flax Committee, has drawn the attention of prospective flax growers to varieties which are suitable for areas in the three prairie provinces. Tests conducted by the Dominion Experimental Farms and Extension Service Manitoba Department of Agriculture listed the results of three leading varieties. In Manitoba, Rocket gave an average yield of 12.7 bushels per acre, Dakota 12.5 bushels and Royal 11.7 bushels to the acre. A noticeable difference in maturity at the time of harvest was disclosed in the Manitoba tests. Rocket and Dakota were uniformly ripe while Royal contained a number of plants still in bloom which probably accounted for the lower yields of Royal.

Interesting and useful information for flax growers is also contained in a bulletin issued by the Saskatchewan Cereal Variety Committee which lists variety zones in that province as determined by soil and climate.

Royal, a leading variety is reported to be moderately resistant to wilt and rust but is susceptible to pasmo. Royal is a high yielder but is late maturing and has slightly weak straw.

Redwing is resistant to wilt, susceptible to rust and pasmo. It is lower in yield than Royal but as it matures a week earlier it is recommended where early maturity is essential.

Dakota is highly resistant to both wilt and rust and appears to be susceptible to pasmo. Dakota matures earlier and more uniformly than Royal but is slightly lower in yield the bulletin says.

Professor Harrison also mentions a new promising variety "Sheyenne" which is described by W.G. McGregor, Cerealist of Central Experimental Farm at Ottawa as an early variety maturing with Redwing but more disease resistant. It is recommended for northern areas.

wheat by increasing the rates of fertilizer applied in this greenhouse experiment.

It is realized that conditions in the greenhouse are vastly different than those in the field, but the trend of the effect of fertilizers on different soil types obtained in this experiment follows the results of field trials. The observation may be made also, that where moisture conditions are ample, the use of heavier applications of fertilizers may be warranted. Much more data must be compiled from field tests with fertilizers in Southern Alberta to determine where conditions are favorable for their use.

Undulant Fever Said Threat To Health of U.S.

Brucellosis, more commonly known as undulant fever or Malta Fever is a source of potential danger to the United States national health, it was stated in an editorial in the Journal of the American Medical Association recently. This infection is harbored

by goats, cows and hogs and humans contract it by drinking raw (unpasteurized) milk or handling infectious material.

The editorial estimated that "the total number of cases reported in the United States has averaged about 4,000 yearly for the past several years," but added that as only the relatively severe acute illnesses are diagnosed and reported, it is probable that actually 40,000 to 100,000 infections occur annually. It was pointed out that chronic infections are rarely diagnosed.

Applying this ratio to Canada, it would appear that probably 10,000 to 50,000 infections occur annually in the Dominion. Figures for the years 1940 to 1945 inclusive, reveal a total of 1,124 cases reported for an average annual rate of 187 cases. However in 1940 there were only 142 cases while in 1945 there were 264.

From this it would appear that comparatively undulant fever in Canada is not the public health problem it is in the United States. However the disease and its crippling and killing possibilities are with us—and will be with us as long as it appears difficult to prevent, diagnose and apply treatment.

The Journal editorial concludes that "development of still better methods of diagnosis, treatment and prevention in animals and men, depends upon an increasing 'brucellosis-mindedness' and continued investigation. The disease continues to be a major public health problem. Pasteurization of all dairy products must remain the greatest bulwark against human infection until methods of control can be perfected."

Thus it can be seen that as far as dairy products are concerned, pasteurization is the only sure guard against undulant fever. Likewise, pasteurization is a sure guard against

other milk-borne diseases such as bovine tuberculosis, typhoid fever, septic sore throat, paratyphoid and dysentery.

Incidentally, the Journal editorial remarks that the annual food loss in milk, butter, beef, veal and pork from brucellosis reaches a staggering total in calories of the kind most needed by an underfed world.



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